Appendix E

Statistical Analysis of VOCs in the Environment (SAVE) Relational Data Base Elements

Table E-1. SAVE Database element fields: Measured, Derived, and Interpreted

Table	*Related Table*	*Parameter*	*Description*	*Domain*	*Format*	*Origin*
SiteInfo		SEQNO	Sequence number		nnnnnnnnn	Assigned
		SITENAME	Site name		text	Measured
		STREETNO	Street number			Measured
		STREET	Street name		text	Measured
		XSTREET	Cross street		text	Measured
		CITY	City		text	Measured
		COUNTY_LIST	County	CA/OR counties 1-99	nn	Measured
		STATE_LIST	State		nn	Measured
	State_List		State Census # 1-99			
		ZIP	Zip code			Measured
		LAT	Latitude			Measured
		LON	Longitude			Measured
		DNAPL	Are DNAPLS present (y/n)		y/n	Measured
		LNAPL	Are LNAPLS present (y/n)		y/n	Measured
		AV_PRECIP(INCHES/YEAR)	Average precipitation		nnnn.nn	Measured
		AV_WIND_SPEED(MPH)	Average wind speed		nnnn.nn	Measured
		AV_TEMP(DEGREES_F)	Average temperature		nnn.nn	Measured
		AV_HUMIDITY(%)	Average humidity		nn.nn	Measured
		AV_EVAPOTRNS(INCHES/YR)	Average evapotranspiration		nnnn.nn	Measured
		DISCOVERY_DATE	Contamination discovery date		m/d/y	Measured
		GEOLOGIC_SETTING_LIST	Geologic region 1-15		nn	Measured
	Geo_Setting_List		Freeze and Cherry's USGS Geologic Regions			
BoreInfo		SEQNO	Sequence number		nnnnnnnnn	Assigned
		BORENAME	Bore name		text	Records
		BOREDATE	Completion date		m/d/y	Measured
		X(EASTING)	Easting (feet) state plane or local coords.		nnnnnnnn.nn	Measured
		Y(NORTHING)	Northing(feet) state plane or local coords.		nnnnnnnn.nn	Measured
		POINT_OF_MEASUREMENT	Datum (e.g. surface, casing top)		text	Observed
		ELEVATION_AT_POM(FEET)	Elevation		nnnn.nn	Measured
		DEPTH(FEET)	Depth lowest point in well		nnnnnn.nn	Measured
		DEPTH_1ST_WATER(FEET)	Depth of first water		nnnn.nn	Measured
		BORE_TYPE_LIST	Bore type classification		letter	A-H
	Bore_Type_List		Bore type letters			
		IN_PLUME?	Is the well screened in the plume?		y/n	

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Table	*Related Table*	*Parameter*	*Description*	*Domain*	*Format*	*Origin*
ChemSample		SEQNO	Sequence number		nnnnnnnnn	Assigned
		BORENAME	Bore name		text	Measured
		DATE	Date		m/d/y	Measured
		MATRIX	Matrix (e.g. SOIL, WATER, VAPOR)		text	Measured
		CHEM_NUMBER	Chemical number		nnnnnnnnn	See List
		ANALYTE_NAME	(e.g. TPH, TotalVOCs,eH,pH)		text	Measured
		QUALIFIER	Letter/symbol for accuracy		text	Measured
		CONCENTRATION	Concentration		text/nnnnn.n	Measured
		DETECTION_LIMIT	Detection limit		nnnn.nn	Measured
		DILUTION_FACTOR	Dilution factor		nnnn.nn	Measured
		UNITS	Units		text	Measured
		ANALYTICAL_METHOD	Analytical method		text	Measured
	Chem_List	CHEMICAL	Analyte name		text	Assigned
		CHEM_NUMBER	Chemical number		nnnnnnnnn	Assigned
		CAS_NUMBER	CAS number		nnnnnnnnn	Assigned
		ALIAS	Abbreviation of chem name		text	Assigned
WaterLevel		SEQNO	Sequence number		nnnnnnnnn	Assigned
		BORENAME	Bore name		text	Measured
		DATE	Date		m/d/y	Measured
		DEPTH_TO_GW(FEET)	Ground water depth		nnnnn.nn	Measured
		POINT_OF_MEASUREMENT	Datum (e.g. surface, casing top)		text	Observed
		GW_ELEV.(FEET_AMSL)	Ground water elevation		nnnnn.nn	Measured
		VADOSE_ZONE_THICK(FEET	Thickness of vadose zone at well			
AquiferTest		SEQNO	Sequence number		nnnnnnnnn	Assigned
		SITE_AVG_K(FT/DAY)	Sitewide average hydraulic conductivity		nnnn.nn	Derived
		LO_K	Sitewide lowest K value reported		nnnn.nn	Derived
		HI_K	Sitewide highest K value reported		nnnn.nn	Derived
		GEOMEAN_K	Geometric mean of K values at site		nnnn.nn	Derived
		STDEV_K	Standard deviation of K values at site		nnnn.nn	Derived
		NUMBER_OF_K_VALUES	Number of K values measured		nnnn.nn	Derived
		GEOMEAN_TRANSMISSIVITY	Geometric mean of T values at site		nnnn.nn	Derived
		STDEV_T	Standard deviation of T values at site		nnnn.nn	Derived
		NUMBER_OF_T_VALUES	Number of T values measured		nnnn.nn	Derived
		COMMENTS	Converting units and other notes		nnnn.nn	Derived

Table E-1. SAVE Database element fields: Measured, Derived, and Interpreted

Table Related Table	*Parameter*	*Description*	*Domain*	*Format*	*Origin*
Plume_Remediation	SEQNO	Sequence number		nnnnnnnnn	Assigned
	PLUME_NUMBER	Plume number		nn	Assigned
	REMED_START_DATE	Remediation start date		m/d/y	Measured
	REMED_END_DATE	Remediation end date		m/d/y	Measured
	EST_MASS_REMOVED(G)	Estimated mass removed		nnnnnnnn.nn	Derived
	REMEDIATION_METHOD	Remediation method		letter	Measured
			A=Slurry wall/grout curtain		Measured
			B=In Situ bio-remediation		Measured
			C=Soil/rock excavation		Measured
			D=Tank removal		Measured
			E=Air sparging		Measured
			F=Ground water extraction		Measured
			G=Soil vapor extraction		Measured
			H=Cover/cap		Measured
			I=Other		Measured
Hydro_Desc	SEQNO	Sequence number		nnnnnnnnn	Assigned
	EFFECTIVE_POROSITY(%)	Effective porosity (fraction)		nnnn.nnnn	Interpreted
	AV_DEPTH_WATER_TABLE	Average dpeth to water table		nnnn.nnnn	Interpreted
	HYDRO_GRADIENT	Hyraulic gradient		nnnn.nnnn	Interpreted
	ORGANIC_CARBON_CONT.	Organic carbon content		nnnnn.nn	Interpreted
	RECHARGE_INFIL(FT/DAY)	Recharge infiltration		nnnnn.nn	Interpreted
	AV_AQUIFER_THICKNESS(FT	Average Aquifer thickness		nnnnn.nn	Interpreted
Plume_Dat	SEQNO	Sequence number		nnnnnnnnn	Interpreted
	PLUME_NUMBER	Plume number		nn	Assigned
	PLUME_CONTAMINANT	Plume contaminant alias name		text	Interpreted
	SOURCE_X(EASTING)	Source easting		nnnnnnnn.nn	Interpreted
	SOURCE_Y(NORTHING)	Source northing		nnnnnnnn.nn	Interpreted
	PLUME_DATE	Plume date		m/d/y	Interpreted
	PLUME_LENGTH(FEET)	Plume length		nnnn.nn	Interpreted
	PLUME_WIDTH(FEET)	Plume width		nnnn.nn	Interpreted
	IMPACTED_WTR_VOL(GAL)	Volume of impacted water		nnnnnnnn.nn	Interpreted
	MAX_CONC(PPB)	Maximum concentration		nnnn.nn	Measured
	MAX_CONC_X(EASTING)	X Coordinate of max concentration		nnnnnnnn.nn	Interpreted
	MAX_CONC_Y(NORTHING)	Y Coordinate of max concentration		nnnnnnnn.nn	Interpreted
	AV_CONCENTRATION(PPB)	Average concentration		nnnn.nn	Derived
	RETARDATION_COEFF	Retardation coeeficient		nnnn.nn	Derived
	PLUME_DAYLIGHT	Plume daylights (y/n)		y/n	Measured
	REMOVE_STAT_ANAL.	Yes or No flag for plume removal		y/n	Derived
	SUMP_IN_PLUME	Are sumps in use (y/n)		y/n	Measured
	SIG_IMPACT_FROM_SUMP	Do these sumps impact plume		y/n	Derived
	RELEASE_START_DATE	Release start date		m/d/y	Measured
	MATERIALS_RELEASED	List of chemicals spilled		text	Measured
	MASS/VOL_RELEASED	Quantity of spill		text	Measured
	UNITS	Units used to measure quantity		text	Measured
	RELEASE_END_DATE	Release end date		m/d/y	Measured

Table E-1. SAVE Database element fields: Measured, Derived, and Interpreted

Table Related Table	*Parameter*	*Description*	*Domain*	*Format*	*Origin*
Super_Plume	SEQNO	Sequence number		nnnnnnnnn	Assigned
	PLUME_NUMBER	Plume number		nn	Assigned
	GROWTH_RATE(FT3/YEAR)	Growth rate		nnnn.nn	Interpreted
	MEAN_GRAD_DIRECTION	Mean gradient direction		text	Interpreted
	MEAN_GRAD_MAGNITUDE	Mean gradient magnitude		nnnn.nn	Interpreted
	MEAN_GRAD_STD	Mean grad. standard deviation		nnnn.nn	Interpreted
	MEAN_VERT_GRAD_MAG	Mean vertical grad. magnitude		nnnn.nn	Interpreted
	MAX_GRAD_DIRECTION	Maximum gradient direction		text	Measured
	MAX_GRAD_MAGNITUDE	Maximum gradient magnitude		nnnn.nn	Measured
	MAX_GRAD_STD	Max grad. standard deviation		nnnn.nn	Measured
	MIN_GRAD_DIRECTION	Minimum gradient direction		text	Measured
	MIN_GRAD_MAGNITUDE	Minimum gradient magnitude		nnnn.nn	Measured
	MIN_GRAD_STD	Min grad. standard deviation		nnnn.nn	Measured
	MEAN_VELOCITY	Mean velocity		nnnn.nn	Interpreted
	MAX_VELOCITY	Maximum velocity		nnnn.nn	Measured
	MIN_VELOCITY	Minimum velocity		nnnn.nn	Measured
	MASS_CHANGE(G/YEAR)	Mass change		nnnn.nn	Interpreted
	INTERP_DEG_RATE	Interpreted degradation rate		nnnn.nn	Interpreted
	DEGRATE_MTHD_LIST	Interp. deg. rate method		letter	Interpreted
			A=Interp. deg. rate method		Interpreted
			B=Lab microcosm study		Interpreted
			C=Literature review		Interpreted
			D=Transportation model calibr.		Interpreted
			E=Buscheck/Alcantar plume int.		Interpreted
			F=Recalcitrant tracer analyses		Interpreted
			G=Parent/daughter prod. ratio anal.		Interpreted
			H=Chloride mass balance		Interpreted